

EVOLUTION OF ARTIFICIAL INTELLIGENCE TECHNOLOGY IN MODERN COMPUTING: AN ANALYSIS OF RECENT RESEARCH

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Abstract

This research explores the evolution of artificial intelligence (AI) technology in the context of modern computing, focusing on analysing a range of recent research. AI has undergone significant development, with key advances in machine learning, deep learning, and natural language processing that have increased its analytical and computational capacity. The review notes how AI has been widely adopted in various industries, including healthcare, automotive, finance, and manufacturing, bringing significant improvements in productivity and decision-making. However, the research also highlighted emerging challenges, such as ethical issues, data privacy, and algorithmic biases, that need serious attention. In conclusion, while AI in modern computing shows promising progress, continuous research and innovation are needed to overcome these challenges to realise AI's full potential.

Keywords: Technology Evolution, Artificial Intelligence, Modern Computing.

Introduction

In recent decades, artificial intelligence (AI) has undergone rapid development, affecting various aspects of human life. The concept of AI, which initially existed only in the realm of scientific imagination, has now become an integral part of modern computing.

Modern computing is an ever-advancing development of information and communication technologies, bringing significant changes in the way data is generated, processed and analysed. It encompasses various technologies such as cloud computing, quantum computing, and artificial intelligence (AI), all of which have enhanced the ability of computing systems to handle large and complex volumes of data with high efficiency. (Ismail, 2021). Modern computing allows us to run more powerful and sophisticated applications, from deep big data analytics to real-time personalisation of services, as well as supporting innovation across a wide range of industry sectors such as health, finance, manufacturing and transportation. At its core, modern computing has become the backbone of today's digital age, enabling pervasive digital transformation and connecting devices and systems in an intellectual and unified network. (Igulu & Saturday, 2023).